

upland moorland

Description of Habitat

Upland moorlands in Wrexham County Borough are found on high, open ground, usually on areas of peat. This plan covers the UK priority habitats of upland heathland and blanket bog. Both of these habitats occur as intricate mosaics within the upland moorlands with other habitats such as bracken, flushes and acid grassland. This plan recognises the importance of this habitat mosaic. There are two extensive areas of upland moorland in WCB - Ruabon Mountain and a part of the Berwyn Mountain range.



Ruabon Mountain

Upland Heathland

Upland heathland usually can be found at the upper edge of enclosed agricultural land (generally at around 250-400 m).

It is typically dominated by a range of dwarf shrubs such as heather *Calluna vulgaris*, bilberry *Vaccinium myrtillus*, crowberry *Empetrum nigrum*, bell heather *Erica cinerea* and western gorse *Ulex gallii*. It is characterised by the presence of dwarf shrubs at a cover of at least 25%. Wet heath is most commonly found in the wetter north and west and dominated by mixtures of cross-leaved heath *Erica tetralix*, deer grass *Scirpus cespitosus*, heather and purple moor-grass *Molinia caerulea*, over an understorey of mosses often including carpets of Sphagnum species. High quality heaths are generally structurally diverse,

containing stands of vegetation with heather at different stages of growth.

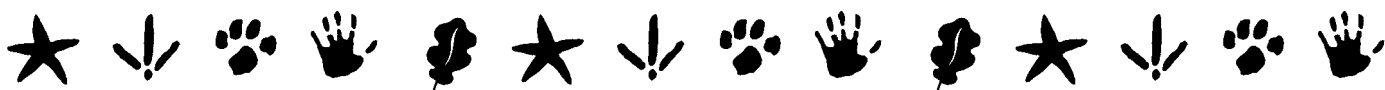
Blanket Bog

Blanket bog occurs on deeper peat and is usually dominated by heather and hare's-tail cotton-grass *Eriophorum vaginatum* and characteristic bog mosses (*Sphagna*). It is exclusively rain-fed, forming peat in cool oceanic climates with low temperatures and high and regular rainfall. Peat depth is very variable, with an average of 0.5 - 3m being fairly typical but depths in excess of 5m not unusual.

Blanket bog peat accumulates in response to the very slow rate at which plant material decomposes under cold, waterlogged conditions. It can cloak whole landscapes, even developing on slopes of up to 30°. Some bog systems have been accumulating peat for over 10,000 years.



Heather



Associated Species

An important assemblage of birds is associated with upland moorlands including red grouse *Lagopus lagopus*, black grouse *Tetrao tetrix*, merlin *Falco columbarius* and hen harrier *Circus cyaneus*. Areas of blanket bog can also support breeding Eurasian golden plover *Pluvialis apricaria*, skylark *Alauda arvensis*, ring ouzel *Turdus torquatus* and stonechat *Saxicola torquatus*. One of the most important sites for black grouse in Wales is Ruabon Mountain.

Some forms of upland heath also have a significant lower plant interest, including assemblages of rare mosses and liverworts that are particularly associated with the wetter western heaths. The invertebrate fauna of upland heaths is especially diverse.

Blanket bogs also fulfil an important role as repositories of archaeological and palaeoecological material and have functional values as agricultural rough grazing, sporting estate and water catchments. In the context of climate change the role of blanket bogs as a carbon store is also now considered significant.

Site Designation

The Ruabon and Berwyn Mountains are Sites of Special Scientific Interest (SSSI) notified for their vegetation and bird populations. Both areas are a part of the Berwyn and South Clwyd Mountains candidate Special Areas

Nationally and Locally Important Biodiversity Species Occurring in Upland Moorland

Mammals

- Hare

Reptiles

- Common lizard
- Adder

Birds

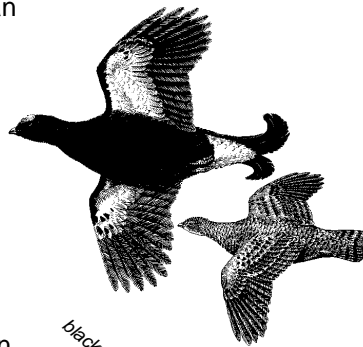
- Twite
- Curlew and other waders
- Skylark
- Short eared owl
- Stonechat
- Ring ouzel

- Black grouse
- Red grouse
- Hen harrier
- Peregrine falcon
- Merlin

Plants

- Cloudberry
- Lichens (*Cladonia spp*)
- Slender feather moss
- Wax cap fungi
- Earth tongue fungi
- Lesser butterfly orchid

of Conservation (cSAC) under the European Habitats Directive, primarily for the blanket bog and dry heath habitats of European importance. The Berwyn Mountain is also classified as Special Protection Areas (SPA) under the EC Birds Directive for its upland raptor population.



black grouse

Only a small fraction of moorland sites in Wrexham County Borough are not cover by statutory designations. These sites are usually included in the Wildlife Sites Register (non-statutory), but this offers no protection to the site.

Potential future designation of Ruabon Mountain as part of the Clwydian Range Area of Outstanding Natural Beauty (AONB) and Berwyn Mountains and Ceiriog Valley (AONB).

Habitat Distribution

National

The total upland heath resource in the UK amounts to between 2 and 3 million hectares. Dwarf shrub heaths are recognised as being of international importance because they are largely confined within Europe to the British Isles and the western seaboard of mainland Europe. The UK has 75% of the European resource of upland heath and between 10 and 15% of the total world resource of blanket bog (approximately 1.5 million ha). Scotland supports the largest proportion of blanket bog.

Welsh

Upland heath covers an estimated 80,000 ha in Wales, forming 3.2% of the UK total.

Blanket bog covers about 70,000 ha in Wales, 4.7% of the UK total blanket peat resource.



Wrexham

There is 920 ha of blanket bog and 2000 ha of upland heath covering 4% of the land of Wrexham County Borough.

There are two main areas of upland moorland: Ruabon Mountain SSSI and Berwyn Mountain SSSI, both supporting the habitats of upland heathland and blanket bog. There are also small fragmented areas of heathland and modified bogs on hill slopes below these two moorland areas. These remnant moorland habitats are designated as Wildlife Sites and include sites such as Bryn Llyn-Gloyw and Llechrydau in the Ceiriog Valley.

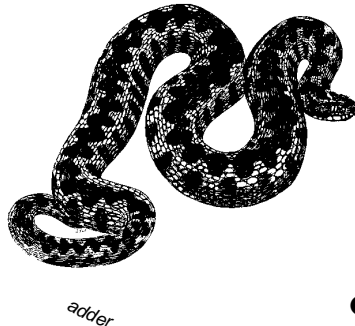
Current Status

The area of upland heather in Wales has declined over 50% since 1947. The Berwyn Mountains suffered a 44% decline in the extent of heather-dominated vegetation between 1946 and 1984. Much of this loss is attributed to agricultural land improvements, heavy grazing by sheep and afforestation.

Inappropriate grazing patterns can cause a loss of heather moorland. There is likely to be further significant loss of heather moorland to acid grassland if current grazing levels and pressures continue. However, the conversion of heathland to acid grassland is not a purely recent phenomenon. On some sites in Wales (and elsewhere in UK) the major decline in heathland cover probably took place in the 19th century or even earlier.

Current Factors Affecting the Habitat

- *Unsustainable grazing levels - over grazing.*
- *Localized trampling by people and livestock leading to erosion.*
- *Uncontrolled and too frequent burning.*
- *Past afforestation (coniferous plantations) leading to habitat destruction.*
- *Climate change.*
- *Pollution and acid rain reduces the lichen and bryophyte interest of habitats as well as causing dwarf shrub habitats to shift to grass dominated habitats through nitrogen deposition.*
- *Moorland drainage.*
- *Natural erosion processes.*
- *Conversion to more intensive forms of agriculture, such as pasture improvements at lower elevations.*



- *Wind farm development and telecommunication mast are an increasing threat to upland moorland habitats.*
- *Lack of appropriate management for grouse shooting.*

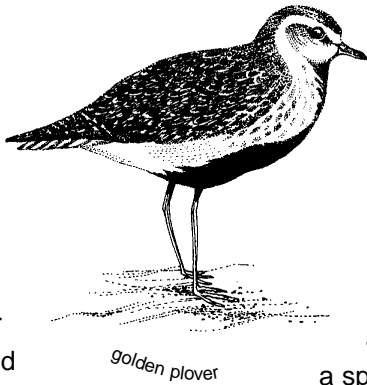
Current Action

- *National Biodiversity Action Plan for upland heath and blanket bog. A pilot project by the Brecon Beacons National Park and CCW to develop an integrated approach to common land management in upland Wales.*
- *Tir Gofal is an all-farm agri-environment grant scheme, which includes mandatory prescriptions to maintain existing stands of upland heath, as well as optional prescriptions to encourage heathland expansion and re-creation. Protecting and improving heather moorland habitats through encouraging lower stocking levels and more appropriate management practices.*
- *Landowners, managers and farmers who intend to carry out agricultural improvements on semi-natural areas or uncultivated land must apply to*



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the National Assembly for Wales for a screening decision to see if the Regulations apply to their proposals. If the screening process judges that the project would have a significant effect on the environment then they would need to apply for formal EIA consent. Failure to apply for screening for a project deemed to have a significant environmental effect could lead to prosecution.



Golden plover

- The Ruabon and Berwyn Mountains are managed for black grouse.
- Monitoring of black grouse and other birds by RSPB and CCW.
- Parts of Ruabon and Berwyn Mountains are registered as common land. Rights to graze livestock on common land can be held by a number of individuals, and overgrazing is a specific problem on many upland commons in Wales. DETR produced a "Good practice guide on managing the use of common land" in 1998.
- The Wrexham LANDMAP Study has highlighted the importance of upland areas in Wrexham County Borough from several aspects e.g. Culture, Landscape, Biodiversity and History. This study has compiled management recommendations for these areas.
- Privately owned upland moorlands are often part of large estates which are commonly managed for the grouse-shooting interest. Large areas are also owned or managed by water companies as part of their water catchment plans.
- Forest Enterprise owns coniferous plantations adjacent to upland moorlands which are managed for biodiversity priority species.

- Heath and Grass Burning Code. The dates and conditions under which heather can be burnt are defined by law. The grass and heather burning code is available from the Agriculture Department of the Welsh Assembly Government. The burning regulations restrict the burning of heather and associated vegetation to specific times of the year.

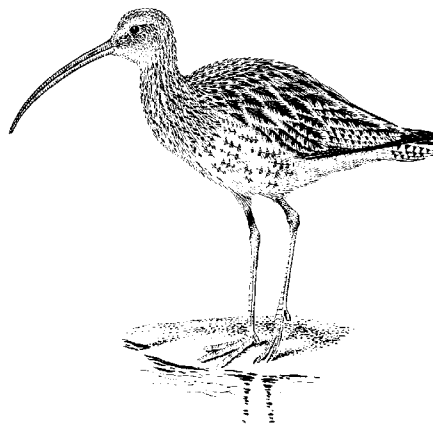
Local Action

- CCW is currently preparing management plans for the Berwyn and Ruabon Mountain SACs and SSSIs, and upland moorland SSSIs receive beneficial management through management agreements. Common monitoring standards are also being established to assess the condition of upland heath in the context of 'favourable conservation status'.
- CCW vegetation monitoring and photomonitoring of upland moorland SSSIs and SACs.

<i>Objectives and Targets</i>	
1	<i>Protect and maintain the current extent and overall distribution of the upland heathland and blanket bog in WCB.</i>
2	<i>Enhance all upland moorland habitats in WCB:</i> a. <i>Increase dwarf shrubs to at least 25% cover where they have been reduced due to inappropriate management. By 2010 all heathland within statutory sites and 50% of heathland in non-statutory sites should be in favourable condition with at least 25% cover.</i> b. <i>Enhance 50% of blanket bog habitat by 2010.</i>
3	<i>Recreate and restore degraded moorland habitats:</i> a. <i>By 2010 initiate management to re-create 5.4 ha of upland heath where heathland has been lost due to agricultural improvement or afforestation, with a particular emphasis on reducing fragmentation of existing heathland.</i> b. <i>Improve the condition of those degraded areas of blanket bog which can be readily restored. 30% of the total extent of restorable blanket bog to be restored by 2010.</i>
4	<i>Maintain and where appropriate take measures to restore the breeding bird assemblages of the upland moorlands.</i>
5	<i>Promote the importance of upland moorland habitats in WCB.</i>



Merlin



Curlew

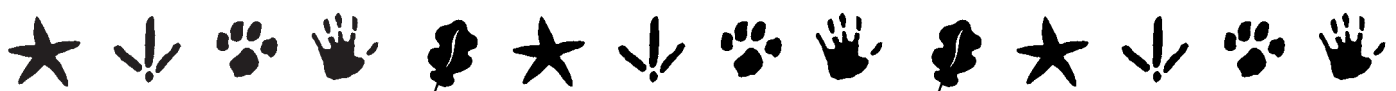
Links to Other Action Plans

- LEAP Dee Catchment
- UK Black Grouse SAP
- UK Upland Heath HAP
- UK Blanket Bog HAP
- Wrexham River, Stream and Canal HAP
- Wrexham Farmland Bird HAP*
- Denbighshire Upland Moorland HAP

* To be published by 2005.

Proposed Action with Lead Agencies

Action	Objective	Partners	Target
Policy			
Ensure the importance of blanket mire and upland heathland are recognised in Unitary Development Plans, Local Plans, Structure Plans, Mineral Strategies, Indicative Forest Strategies, LEAPs.	1	WCBC, CCW, ARAD, FC, NWWT, Bird groups	As plans are updated.
Protect upland moorland from inappropriate development which threatens loss or damage to moorland habitats.	1	WCBC, ARAD, CCW	Ongoing
Support the extension of the current Clywdian Range AONB to include Ruabon Mountain.	1	CCW, WCBC, ARAD	Ongoing
Ensure agri-environment schemes (Tir Gofal) includes prescriptions that will not only safe guard but enhance the quality of blanket bog and upland heath and their associated species.	1, 2	CCW, ARAD	As schemes are updated.
Ensure all areas with statutory protection are adequately protected.	1	CCW, ARAD, WCBC	Ongoing
Ensure that fragmented upland habitats are protected through local plans and strategies and through EIA regulations.	1	WCBC, FC, ARAD, CCW	Ongoing
Ensure all isolated patches of moorland habitats excluded from main SSSI areas are designated Wildlife Sites.	1	WCBC, NWWT	2010
Protect areas of heath and blanket bogs lying outside the SSSIs.	1	CCW, WCBC, ARAD	Ongoing
Review present SSSI and SAC boundaries.	1	CCW	2010
Management			
Encourage the implementation of long term integrated management plans through agreements with site owners and in partnership with CCW.	1, 2, 3	CCW, CLA, land owners, shepherds, shooting estate owners, NFU, FUW	Ongoing
Prepare and implement management plans for all SSSI sites by 2020.	1, 2, 3, 4	CCW	By 2020
Through agri-environment grant schemes and other partnerships ensure that grazing levels are beneficial to upland moorland habitats.	1, 2, 3	CCW, WAG, shepherds, landowners, farmers	Ongoing
Assess fragmented degraded heath and blanket bog sites lying outside the SSSI for habitat restoration. Prioritise sites for habitat restoration. Initiate restoration work by 2015.	3	CCW, ARAD, WCBC, landowners	5 ha by 2015



Proposed Action with Lead Agencies

Action	Objective	Partners	Target
Initiate a plan to identify areas where drain blocking can be taken to reduce drainage of upland moorland sites. Assess and identify areas.	1, 2	Landowners/managers, CCW, ARAD	By 2007
Identify sites for moorland habitat recreation and initiate this work.	3	CCW	2007
Restore 5.4 ha of upland heath areas to >25% of dwarf shrub cover by 2005.	3	CCW, landowners	2005
Consider producing a local species action plan for black grouse.	4	Wrexham Biodiversity Group, North East Wales Bird Biodiversity Group, RSPB	By 2005
Extend moorland habitats by incorporating marginal hill ground, woodland and scrub and other farmed land when managing moorland mosaics.		CCW, FC, ARAD	By 2010
Advisory, Communications and Publicity			
Promote the uptake of positive management by owners and occupiers of SSSIs.	1, 2	CCW	Ongoing
Establish demonstration sites, with special linkage to agri-environment schemes, to develop and exhibit best-practice management techniques.	5	CCW, FC, WCBC, ARAD, NWWT, RSPB	One site by 2006
Provide advice and information on land management.	5	CCW, WCBC, ARAD, FC	Ongoing
Ensure landowners, farmers and landmanagers are aware of the Heather and Grass Burning Code.	5	CCW, NWWT, WCBC, ARAD, RSPB	Ongoing
Promote conservation of upland moorland through the media, particularly targeted at landowners and managers, rural communities, and visitors to upland moorland areas.	5	CCW	Ongoing
Surveying and Monitoring			
Collate survey information from moorlands	1, 2, 3	CCW, WCBC	2010
Establish monitoring to measure the effect of present and future management regimes	2, 3	CCW, RSPB, landowners /managers	2010
Monitor numbers of breeding birds.	4	CCW, BTO, RSPB	Every 5/10 years
Establish inventory of all nationally scarce and red data book species within moorland habitats of Wrexham County Borough.	1, 4	NE Wales Biodiversity Network Fora, CCW	Ongoing

Abbreviations: ARAD - Agriculture and Rural Affairs Department; BTO - British Trust for Ornithology; CCW - Countryside Council for Wales; FC - Forestry Commission; FE - Forest Enterprise; LEAP - Local Environment Agency Plan; NWWT - North Wales Wildlife Trust; RSPB - Royal Society for the Protection of Birds; SAC - Special area of Conservation; SSSI - Site of Special Scientific interest; WAG - Welsh Assembly Government, WCBC - Wrexham County Borough Council.

Further information

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Photos courtesy of Emily Meilleur.

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Please call 01978 292019.

